

AMENDMENTS TO THE CLAIMS

Claims 1-8. (Canceled)

9. (Currently Amended) A method of servicing queues in a data packet transmission system, the method comprising:

a) providing a data packet transmission system comprising a transmission device for transmitting data packets, a reception device for receiving said data packets, a set of queue devices respectively associated with a set of priorities each defined by a priority rank in a plurality of priority ranks for storing each of data ~~packet~~ packets transmitted by said transmission device into the queue device corresponding to one of said priority ranks and a single queue scheduling mechanism comprising a single queue scheduler for reading, at each packet cycle, a data packet in one of said queue devices determined by a normal priority preemption algorithm;

b) receiving from a credit device at each packet cycle a value N defining the priority rank to be considered by said single queue scheduler, the considered priority rank is selected based on a pre-determined value related to all of said plurality of priority ranks which are associated with said single queue scheduling mechanism, wherein said priority ranks comprise high and low priority ranks;

c) obtaining authorization to send a data packet corresponding to the priority rank N;

d) determining whether said data packet corresponding to the priority rank N is in said queue device corresponding to the priority rank N; and,

e) when said data packet corresponding to the priority rank N is in said queue device corresponding to the priority rank N, reading said data packet corresponding to priority rank N by said single queue scheduler from said queue device corresponding to the priority rank N instead of said queue device determined by the normal priority preemption algorithm.

10. (Previously Presented) The method of claim 1, wherein said steps (b) - (e) are repeated iteratively until a pre-determined condition is satisfied.

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11. (Previously Presented) The method of claim 1, wherein when authorization to send said data packet corresponding to the priority rank N is not obtained or when said data packet corresponding to the priority rank N is not in said queue device corresponding to the priority rank N, performing a step of reading a data packet by said single queue scheduler from said queue device determined by the normal priority preemption algorithm.

12. (Currently Amended) The method of claim 1, wherein said plurality of priority ranks comprise both a highest priority rank and a lowest priority rank from among said all of said plurality of priority ranks.